

REMARKS

Claims 1, 3-54 and 61-67 are pending in this application. Claims 1, 4, 6-26, 29 and 36-37 have been amended. Claim 67 is new. Claim 2 has been canceled. No new matter has been added. Applicant reserves the right to pursue the original claims and other claims in this and other applications. Applicant gratefully acknowledges the Examiner's allowance of claims 38-54 and 61-66 and the indication of allowable subject matter in claims 6 and 37. Claim 6 has been amended to include the limitations of claim 1 and claim 37 has been amended to include the limitations of claims 1 and 36. Claims 6 and 37 are now in immediate condition for allowance. Applicant respectfully requests reconsideration in light of the above amendment and the following remarks.

Claims 1-4, 27, 29-33 and 35-36 stand rejected under 35 U.S.C. § 102(a) as being unpatentable over European Patent No. 1329432 ("Tsunetomo"). This rejection is respectfully traversed.

Claim 1 recites a method of forming a micro lens comprising "forming a first layer on a substrate, the first layer comprised of a first material and the substrate comprised of a second material; forming a first opening in the first layer using a dry etchant; providing a wet etchant in the first opening to etch both the substrate and the first layer to form a first mold for the micro-lens, the wet etchant etching the first layer at a different rate than the substrate; and adding a lens material in the first mold to form the micro-lens." Applicant respectfully submits that Tsunetomo does not disclose, teach, or suggest all of the limitations of claim 1. To the contrary, Tsunetomo only refers to performing wet etching using "an aqueous solution of hydrofluoric acid" (Tsunetomo, Col. 10, Lns. 49-50) and performing further etching with "the aqueous solution of hydrofluoric acid," i.e., the same aqueous solution. (Tsunetomo, Col. 11, Lns. 3-4). Thus, Tsunetomo does not teach "forming a first opening in the first layer using a dry etchant; providing a wet etchant in the first opening to etch both the substrate and the first layer to form a first mold for the micro-lens" as recited by claim 1.

Claims 3-4, 27, 29-33 and 35-36 depend from claim 1 and are allowable for at least the reasons mentioned above with respect to claim 1 and on their own merit. Applicant respectfully requests that the rejection be withdrawn and the claims allowed.

Claim 34 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsunetomo in view of U.S. Patent No. 5,708,493 (“Ahsbahs”). This rejection is respectfully traversed.

Claim 34 depends from claim 1 and is patentable over Tsunetomo for at least the reasons mentioned above. Ahsbahs, which has been cited as allegedly teaching a molding technique used to create lenses made from inorganic materials, does not cure the above-noted deficiencies of Tsunetomo. Accordingly, Applicant respectfully requests that the rejection be withdrawn and the claims allowed.

New claim 67 recites a method of forming a micro-lens comprising “forming a first layer on a substrate, the first layer comprised of a first material and the substrate comprised of a second material; forming a mask on the first layer; forming a first opening in the first layer using a first etchant, the first opening self-aligned with openings in the mask; providing a second etchant in the first opening to etch both the substrate and the first layer to form a first mold for the micro-lens, the second etchant etching the first layer at a different rate than the substrate; and adding a lens material in the first mold to form the micro-lens.” Applicant respectfully submits that Tsunetomo does not disclose, teach, or suggest all of the limitations of claim 67. To the contrary, Tsunetomo only refers to the first etch etching in both a horizontal and vertical direction. (Tsunetomo, FIGs. 5C, 8C, 9B-C). That is, Tsunetomo refers to the first etch not being self-aligned with the mask. Thus, Tsunetomo does not teach “forming a first opening in the first layer using a first etchant, the first opening self-aligned with openings in the mask” as recited by claim 67. Applicant respectfully requests the allowance of claim 67.

In view of the above, Applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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